

energenie

GREEN ENERGY FOR OUR PLANET



SIS-PWM SILVER SHIELD™ ADVANCED SURGE PROTECTOR WITH POWER METER

USER MANUAL
HANDBUCH
HANDLEIDING
MANUEL DESCRIPTIF
РУКОВОДСТВО ПОЛЬЗОВАТЕЛЯ
КЕРІВНИЦТВО КОРИСТУВАЧА

**Silver Shield(TM) advanced surge protector with
power meter**



**Silver Shield (TM) Advanced Surge Protector
mit Leistungsmesser**



**Silver Shield(TM) geavanceerde surge protector
met stroom meter**



**Silver Shield (TM) de pointe de surtension avec
mesureur de puissance**



**Silver Shield (TM) Сетевой фильтр с функцией
измерения потребляемой мощности**



**Silver Shield (TM) Мережевий фільтр з
функцією вимірювання споживаної
потужності**



Features

- USB interface power meter provides readings of voltage, current, power and energy consumption
- Supplied with the software calculating the energy costs
- Power meter function does not require permanent connection to the computer
- 6 socket AC power surge protector 230 VAC, 10A
- Protection from surges, spikes, radio-frequency noise (EMI/RFI filter)
- Built-in circuit breaker and overload protection

Specifications

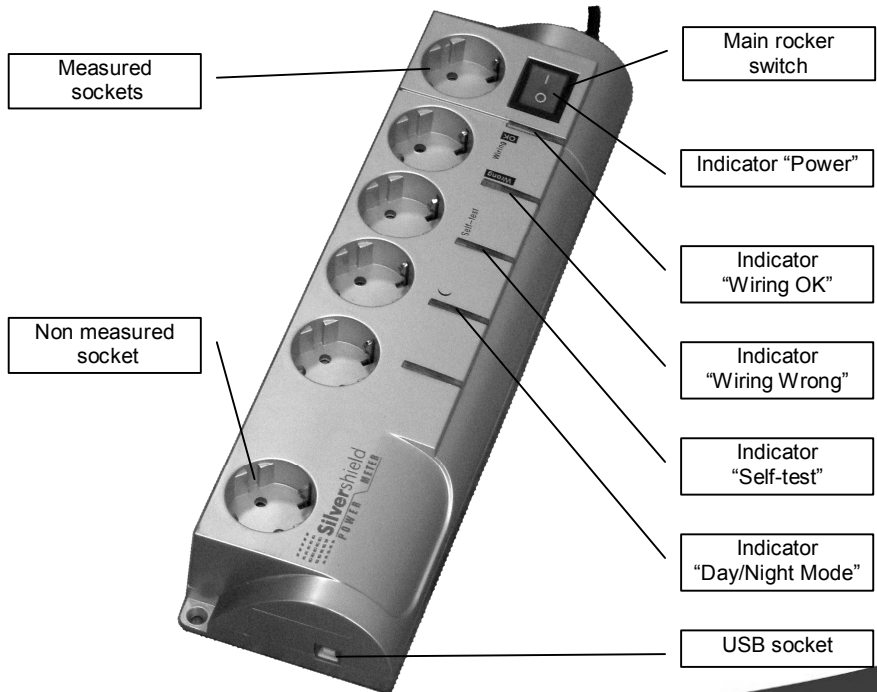
- Power rating: 6 sockets 270 VAC max, 10A max
- USB 1.1 or 2.0 compatible interface: up to 5 m working distance

- Computer measurements: voltage and current measuring (RMS, peak values), power measuring (true, apparent, reactive), real and full energy consumed during a time period (kWH)
- Measurements range: up to 250 VAC, 10 A (RMS), 2500 W, 22.000 kW a year
- Working conditions: +10...40 Celsius degrees, below 90% humidity
- Measurements accuracy: $\pm 1\%$ (within 40W-2500W power range)
- Max surge voltage 6000 V, spike current 13500 A
- Automatic circuit breaker: 10 A
- Resistance to short-circuits: 1.5 KV
- Dimensions: 460 x 140 x 65 mm
- Net weight: 1.3 Kg

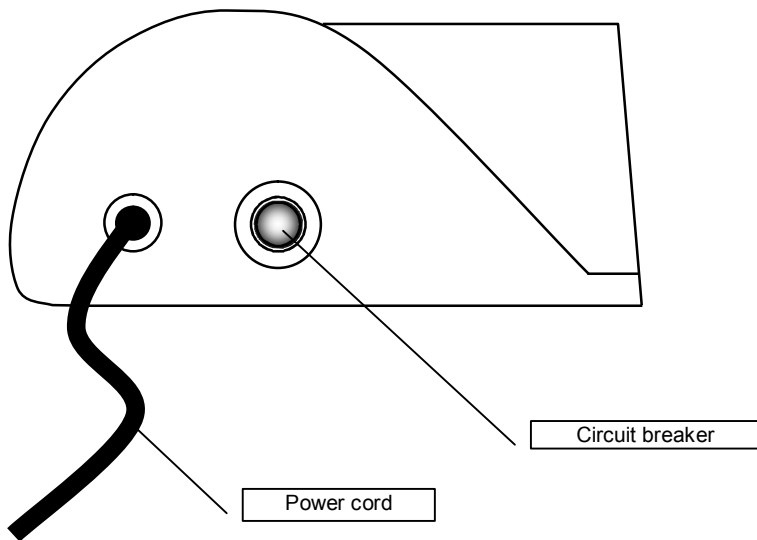
1. Introduction

Congratulations on purchasing the SIS-PWM. It is an advanced surge protector with power metering features.

2. Indicators and controls of the SIS-PWM



2.1 Right side panel



4. Hardware requirements

- Windows XP/2003/Vista/Windows 7
- USB port

5. Package contents

- SIS-PWM
- User manual
- USB cable
- CD with SIS-PWM Power Meter software for Windows

6. Installation of SIS-PWM

To use SIS-PWM please follow next steps:

1. Install the software.
2. Connect the SIS-PWM to the PC with USB cable.
 - Strongly recommended to avoid damp or wet places for installation;
 - SIS-PWM should be connected to the European AC wall socket of the standard DIN 49 440;

- It is possible to connect the SIS-PWM to the power source via other multi-plugs, surge protectors, voltage regulators or UPS.

7. Software installation

- a. Insert CD with the software into the PC CD-ROM drive.
- b. If for any reason the automatic setup does not work, then open CD-ROM drive in the "My computer" window and launch SETUP.EXE from the CD.

Follow instructions of the installation software.

8. Connection of other devices to the SIS-PWM

- The five sockets of the SIS-PWM are used for measuring and calculation of the total energy and other characteristics, consumed by the connected equipment. The sum power consumption will be calculated for all the equipment connected. The sixth socket located on the opposite side of the main power switch, is not being measured. The equipment, which power consumption is not needed to be registered, may be connected into it.
- Multi-plugs and/or surge protectors, if connected to the SIS-PWM, consume a few energy and influence on measurement results, therefore it is not suggested to use it.

9. Operating the SIS-PWM

SIS-PWM has 2 modes of working: on-line mode, when it is connected to Power Meter software, and off-line mode, when it is disconnected from computer or Power Meter software is not run. In online mode, all the power characteristics are calculated and displayed in Power Meter software window, and energy consumed is being counted. For online mode, it needs to plug the SIS-PWM to the computer via USB cable and run Power Meter software. In off-line mode, the SIS-PWM works as energy meter: only the energy consumed is being counted. For reading the energy value and calculated cost of energy it needs to connect the SIS-PWM to computer with the Power Meter software and to read it from it's window. When SIS-PWM is powered off, the energy value is being stored.

10 Power Meter software

The software is used for displaying the characteristics of power consumption and power mains, calculation the consumed energy in local currency.

There is a small display window and a main window. Small display window displays RMS (root mean square) voltage in the power mains and true power, totally consumed by the connected equipment. Indicator "V" (means Voltage) lights, when the voltage is above or below

voltage limits. It warns about dangerous conditions of power mains, which may cause damage to some equipment. Indicator 'L' (means Load) lights or blinks, if the equipment has inductive or capacitive type of the load. Such equipment may cause EMI noise and voltage spikes to the power mains. On most such kinds of loads it blinks in the moment of it's powering on or off.



Figure 1 – Small display window

Main display window displays power characteristics on the equipment connected: True (P), Reactive (Q), Apparent (S) power, power factor (cos ϕ), energy consumed (Ep), apparent energy (Es), rms current (I rms), peak current (I peak), active (R) and reactive (X) impedance, rms voltage (Vrms), peak voltage (Vpeak). Additionally, it shows the cost of energy consumed (money sign) since the previously set date. Energy and cost values may be reset to zero and current date will be set as start point, when pressing "Reset" button.

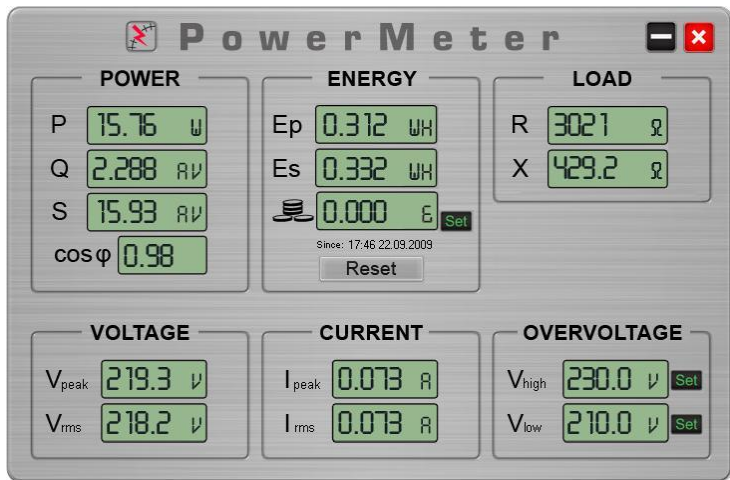


Figure 2 – Main display window

The energy rate settings are set in a window, which is popped up upon pressing “Set” button near the “Cost” indicator. Choose cost rate (per kWh), currency type and press “OK” for applying the changes. If rate differs in day and night, check “Use Day/Night modes” and input rates, day and night start times.

For setting voltage warning limits – press “Set” button nearby and input it in newly opened window.

PowerMeter
ENERGY RATE

Rate per kWh Currency Start time

Uniform 1.5 EUR ▼

Day 5 EUR ▼ 01:01

Night 1 EUR ▼ 00:01

☐ Use Day/Night modes

OK Cancel

Figure 3 – Energy rate settings window

While running Power Meter software logs measured power consumption to MS Access database file log.mdb located in the application directory. One can view logged data in the form of a chart by selecting “Show chart” tray menu item. There are two display options In the chart window (Figure 4.) : “Power consumed” and “Money spent” allowing to switch between those two values in the chart. Note that

periods of time when software was quit are shown as grayed out areas in the chart. By clicking "Export" button one can export data from database file to MS Excel file. Use "Clear & Close" button to purge logged data.

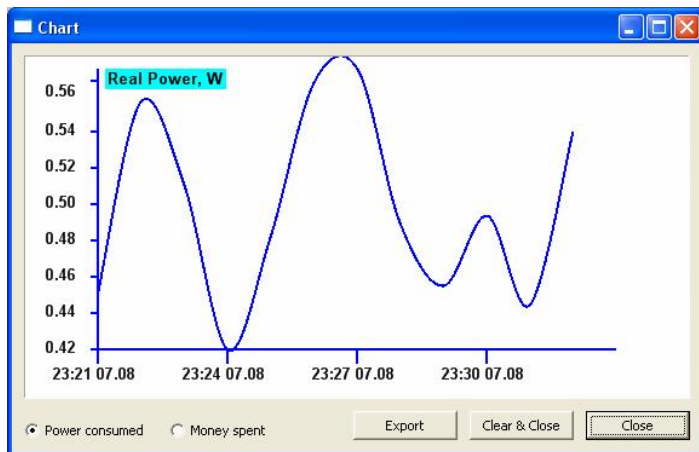


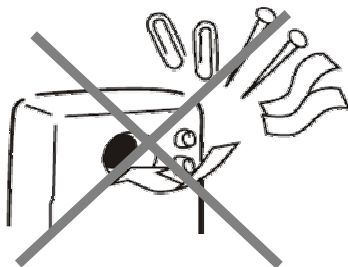
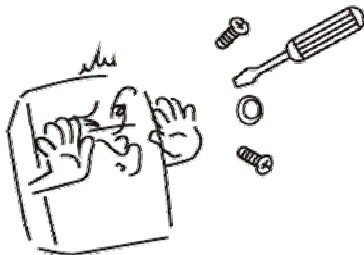
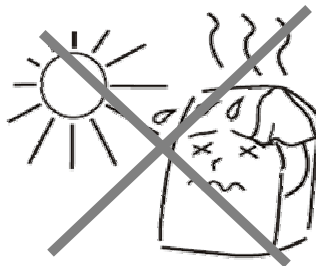
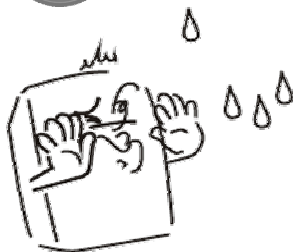
Figure 4 – Chart window

11. Indicators

- Indicator “Self-test” is on – hardware self test was passed successfully
- Indicator “Day/Night mode” is on – means a day time, if day/night mode is enabled or if this mode is disabled
- Main rocker switch is light up – means SIS-PWM is connected to the power supply, there is power on all the sockets, the energy consumed is being counted
- “Wrong” indicator lights up, “OK” doesn’t light up - it means that the wall socket is wrongly wired. It is recommended to fix the wiring
- Indicators “OK” and “Wrong” light up together - it means that the wall socket has problems with grounding. It is recommended to fix the grounding of the wall socket

12. Troubleshooting

Problem	Solution
The circuit breaker is activated. (Tripped)	The load connected to the unit is too high, some of the devices connected to the SIS-PWM should be disconnected and the circuit breaker should be reset.
Indicator "Self-test" is off	SIS-PWM measuring circuit is damaged and shall be repaired
Software reports "Device I/O request error".	Check if SIS-PWM is properly connected to your computer, check if the USB connectors/cables are not damaged. If you use a USB hub, make sure it is not defective.



EC Declaration of Conformity

We hereby certify that the following product complies with all the relevant
Safety Requirements of § 4 EMVG and of the Directives 2006/95/EC; 93/68/EEC and 2004/108/EC.

Applicant :	Gembird Europe BV Wittevrouwen 55, 1358CD, Almere, The Netherlands
Equipment :	Computer parts
Model Nos. :	SIS-PWM
Product description :	SIS-PWM Silver Shield(TM) advanced surge protector with power meter

European standards:

**EN55022:2006; EN55024:1998+A1:2001+A2:2009; EN61000-3-2:2000+
A2:2005; EN61000-3-3:1995+A1:2001+A2:2005;**

The following manufacturer/WITHIN Europe is responsible for this declaration:





Gembird Europe BV
Wittevrouwen 55, 1358CD, Almere, The Netherlands
Tel: +31-(0)36-5211588, Fax: +31-(0)36-5347835


Director

The Netherlands / Aug. 13, 2009
Place and Date



Authorized signature

WARRANTY CONDITIONS 	GARANTIE BEDINGUNGEN   
<p>The warranty period is 36 months and begins with the sale to the end user. The receipt must clearly list the date of purchase and the part number, in addition it should be printed. Keep the receipt for the entire warranty period since it is required for all warranty claims. During the warranty period the defective items will be credited, repaired or replaced at the manufacturer's expense. Work carried out under the warranty neither extends the warranty period nor starts a new warranty period. The manufacturer reserves the right to void any warranty claim for damages or defects due to misuse, abuse or external impact (falling down, impact, ingress of water, dust, contamination or break). Wearing parts (e.g. rechargeable batteries) are excluded from the warranty. Upon receipt of the RMA goods, Gembird Europe B.V. reserves the right to choose between replacement of defective goods or issuing a credit note. The credit note amount will always be calculated on the basis of the current market value of the defective products</p>	<p>Die Garantie beträgt 36 Monate ab Verkaufsdatum an den Endverbraucher. Das Kaufdatum und der Gerätetyp sind durch eine maschinell erstellte Kaufquittung zu belegen. Bitte bewahren Sie Ihren Kaufbeleg daher für die Dauer der Garantie auf, da er Voraussetzung für eine eventuelle Reklamation ist. Innerhalb der Garantiezeit werden alle Mängel, wahlweise durch den Hersteller entweder durch Instandsetzung, Austausch mangelhafter Teile oder im Austausch, behoben. Die Ausführung der Garantieleistung bewirkt weder eine Verlängerung noch einen Neubeginn der Garantiezeit.</p> <p>Eine Garantieleistung entfällt für Schäden oder Mängel die durch unsachgemäße Handhabung oder durch äußere Einwirkung (Sturz, Schlag, Wasser, Staub, Verschmutzung oder Bruch) herbeigeführt wurden. Verschleißteile (z.B. Akkus) sind von der Garantie ausgenommen.</p>
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GARANTIE VOORWAARDEN 	CONDITIONS DE GARANTIE 
<p>De garantietermijn bedraagt 36 maanden en gaat in op de aankoopdatum van het product door de eindgebruiker. Op de aankoopbon moeten de aankoopdatum en productomschrijving duidelijk vermeld staan. Gelieve de aankoopbon de gehele garantietermijn te bewaren, deze is ten alle tijden benodigd voor alle garantie aanspraken. Tijdens de garantietermijn zullen alle gebreken verholpen of vervangen worden door de fabrikant d.m.v. reparatie, omruiling van het defecte onderdeel of het gehele apparaat. Aanspraken tijdens de garantietermijn leiden niet tot verlenging hiervan. Garantieaanspraak vervalt bij schade of gebreken die ontstaan zijn door oneigenlijk gebruik, misbruik of invloeden van buitenaf (vallen, stoten, water, stof, vuil of breken). Slijtagegevoelige onderdelen (b.v. batterijen) zijn uitgesloten van garantie. Bij ontvangst van de RMA goederen behoudt Gembird zich het recht om te kiezen tussen vervanging van de defecte waren of het uitgeven van een kredittota. Het bedrag van de kredittota zal altijd gecalculeerd zijn op basis van de huidige marktprijs voor het defecte product.</p>	<p>Garantie est de 36 mois à partir de la date d'achat de l'utilisateur final.</p> <p>Le talon de garantie doit énumérer clairement la date d'achat et le type d'appareil.</p> <p>Conservez le reçu d'achat pendant toute la durée de la garantie car elle est nécessaire pour toute réclamation.</p> <p>Au cours de la période de garantie tous les défauts doivent être remplacé aux frais du fabricant, soit par la réparation ou la remplacement de la pièce défectueuse ou l'ensemble du produit.</p> <p>Les travaux effectués sous garantie ne prolongent pas la période de garantie ni ne commencent pas une nouvelle période de garantie.</p> <p>Le fabricant se réserve le droit d'annuler toute demande de garantie pour les dommages ou défauts dus à une mauvaise utilisation, abus ou les effets externes (chute, choc, pénétration de l'eau, la poussière, etc.).</p> <p>Les pièces d'usure (par exemple les piles rechargeables) sont exclus de la garantie.</p> <p>Dès réception de la marchandise sous garantie, le SAV de Gembird Europe BV se réserve le droit de choisir entre le remplacement des produits défectueux ou de délivrer un avoir.</p> <p>Le montant d'avoir sera toujours calculée sur la base de la valeur actuelle du marché des produits défectueux.</p>
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